

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

CROSS WIND RIDGES

(acre)
Code 589A

Tables 1 and 2 lists the soil surface textures which fall into each wind erodibility group (WEG).



DEFINITION

Ridges formed by tillage, planting or other operations and aligned across the prevailing wind erosion direction.

PURPOSE

Reduce soil erosion from wind.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to cropland and may be applied as a stand alone practice or a part of a conservation system.

It is best adapted on soils that are stable enough to sustain effective ridges and cloddiness, such as clayey, silty, and sandy loam soils.

It is not well adapted on unstable soils such as sands, loamy sands, and certain organic soils.

TABLE 1

SOILS UNSUITABLE FOR RIDGES

Wind Erodibility Group (WEG)	Soil Textures of Surface Layer	Soil Erodibility Index "I" Value
1	Very fine sand, fine sand, sand, or coarse sand	180 - 160
2	Loamy sand, loamy fine sand or sapric organic soil material	134

TABLE 2

SOILS SUITABLE FOR RIDGES

Wind Erodibility Group (WEG)	Soil Textures of Surface Layer	Soil Erodibility Index "I" Value
3	Very fine sandy loam, fine sandy loam, sandy loam	86

CRITERIA

Ridge height, spacing, and direction

Acceptable combinations of ridge height, spacing, and direction are those having

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ridge roughness K values equal to 0.8 or less during those periods when wind erosion is expected to occur. Ridge roughness is discussed in the National Agronomy Manual Subpart 502.32 and K values are displayed in Exhibit 502.62 and Florida Erosion Control Handbook, Section II.

The latest approved soil and wind erosion prediction technology will be used to determine when ridging is needed to meet the planned soil loss objectives.

Impacts to cultural resources and Federal and State protected species shall be evaluated during planning, design and implementation of this conservation practice in accord with established National and Florida NRCS policies (General Manual, Title 420-Part 401 and Title 190-Part 410.22; National Planning Procedures Handbook, FL Supplements to Parts 600.1 and 600.5).

CONSIDERATIONS

Transport of wind-borne sediment and sediment-borne contaminants offsite can be reduced by this practice when used in a resource management system.

PLANS AND SPECIFICATIONS

Specifications for installation, operation, and maintenance of Cross Wind Ridges shall be prepared for each field or treatment unit according to the Criteria, Considerations, and Operations and Maintenance described in this standard.

Specifications shall be recorded on specification sheets, job sheets, narrative statements in conservation plans, or other acceptable documentation.

OPERATION AND MAINTENANCE

Ridges shall be established or re-established by equipment such as chisel plows, drills with hoe openers, or other implements that form effective ridges.

After establishment, ridges shall be maintained through those periods when wind erosion is expected to occur, or until growing crops provide enough cover to protect the soil from wind erosion.

If ridges deteriorate and become ineffective due to weathering or erosion, or change in expected prevailing wind erosion direction, they shall be re-established unless doing so would damage a growing crop.

REFERENCES

National Agronomy Manual

Florida Agronomy Field Handbook

Revised Universal Soil Loss Equation

Wind Erosion Equation

Florida Erosion Control Handbook